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ART 34 AMDT

REPLACEMENT SHEET  
5 April 2004

What is claimed is:

1. A composition of matter which comprises a an isolated nucleic acid according to SEQ ID NO: 1.
- ~~2. A composition of matter which comprises a nucleic acid selected from the group consisting of nucleotides 1234-3618 of SEQ ID NO: 1, a fragment thereof and a substantially homologous variant thereof.~~
- ~~3 2. A composition of matter which comprises an isolated nucleic acid according to claim 2 which comprises nucleotides 1234-3618 of SEQ ID NO: 1.~~
- ~~4. A composition of matter which comprises a peptidic sequence selected from the group consisting of a peptidic sequence according to SEQ ID NO: 2, a fragment thereof and a substantially homologous variant thereof.~~
- ~~5 3. A composition of matter which comprises a an isolated peptidic sequence encoded by a nucleic acid selected from the group consisting of nucleotides 1234-3618 of SEQ ID NO: 1, a fragment thereof and a substantially homologous variant thereof.~~
- ~~6. A composition of matter which comprises a peptidic sequence selected from the group consisting of SEQ ID NO: 2, a fragment thereof, a subunit thereof and a substantially homologous variant thereof.~~
- ~~7 4. A composition of matter according to claim 6 which comprises a an isolated peptidic sequence according to SEQ ID NO: 2.~~
- ~~8 5. A composition of matter according to claim 6 which comprises a an isolated peptidic sequence comprising amino acids 36-217 of SEQ ID NO: 2.~~
- ~~9 6. A composition of matter according to claim 6 which comprises a an isolated peptidic sequence comprising amino acids 233-794 of SEQ ID NO: 2.~~
- ~~10 7. A composition of matter according to claim 6 4 which inactivates AHL.~~
- ~~11 8. A method of modulating AHL signaling activity which comprises contacting said AHL with a composition of matter according to any one of claims 5-10 3 or 4-7.~~

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~~12 9.~~ A transgenic plant harboring a nucleic acid selected from the group consisting of nucleotides 1234-3618 of SEQ ID NO. 1, a fragment thereof and a substantially homologous variant thereof of claim 2.

~~13 10.~~ A transgenic non-human animal harboring a nucleic acid selected from the group consisting of nucleotides 1234-3618 of SEQ ID NO. 1, a fragment thereof and a substantially homologous variant thereof of claim 2.

~~14 11.~~ A method of controlling a bacterial disease in a mammal in need thereof which comprises administering to said mammal a composition of matter according to any one of claims 5-10 3 or 4-7, wherein the expression of pathogenic genes of said bacteria are regulated by AHL signals.

~~15 12.~~ A method of claim ~~14~~ 12 wherein said mammal is a human.

~~16 13.~~ A method of controlling a bacterial disease in a plant in need thereof which comprises administering to said plant a composition of matter according to any one of claims 5-10 3 or 4-7, wherein the expression of pathogenic genes of said bacteria are regulated by AHL signals.

~~17 14.~~ A method of controlling a bacterial disease in a mammal in need thereof which comprises administering to said mammal a composition of matter of claim 2 and its peptide product, wherein the expression of pathogenic genes of said bacteria are regulated by AHL signals.

~~18 15.~~ A method of claim ~~17~~ 14 wherein said mammal is a human.

~~19 16.~~ A method of controlling a bacterial disease in a plant in need thereof which comprises administering to said plant a composition of matter of claim 2, wherein the expression of pathogenic genes of said bacteria are regulated by AHL signals.

~~20 17.~~ A method of controlling a bacterial disease in a plant using any bacterial species containing the composition of matter of claim 2.